

ALL PATENTS, INCLUDING DESIGN  
FOR APPLICATION BASED ON PCT; PARIS CONVENTION;  
NON PRIORITY; OR PROVISIONAL APPLICATIONS

DECLARATION  
AND POWER OF ATTORNEY  
U.S.A.

OR ATTORNEYS' USE ONLY.

ATTORNEYS' DOCKET NO.

P68311US0

As a below named inventor, I declare that my residence, post office address and citizenship are stated below next to my name, the information given herein is true, that I believe that I am the original, first and sole inventor (if only one name is listed at 201 below), or an original, first and joint inventor (if plural inventors are named below at 201-203, or on additional sheets attached hereto) of the subject matter which is claimed and for which patent is sought on the invention entitled:

FLASH MEMORY CELL AND METHOD OF MANUFACTURING THE SAME, AND  
PROGRAMMING/ERASING/READING METHOD IN THE FLASH MEMORY CELL

which is described and claimed in:

☐ the attached specification

☐ PCT International Application No.

☒ the specification in application Serial No. 10/287,781

filed

filed Nov. 5, 2002

(if applicable) and amended on

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 (a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Priority Claimed

2001-87976

(Number)

Republic of Korea

(Country)

29/12/2001

(Day/Month/Year Filed)

☒ Yes

☐ No

(Number)

(Country)

(Day/Month/Year Filed)

☐ Yes

☐ No

(Number)

(Country)

(Day/Month/Year Filed)

☐ Yes

☐ No

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below:

Application No.

Filing Date

Application No.

Filing Date

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is

(Application Serial No.)

(Filing Date)

(Status: patented, pending, abandoned)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys (Registration No. ) to prosecute this application, receive and act on instructions from my agent, and transact all business in the Patent and Trademark Office connected therewith. HARVEY B. JACOBSON, JR. (20,851); JOHN CLARKE HOLMAN (22,789); MARVIN R. STERN (20,840); ALLEN S. MELSER (27,215); MICHAEL R. SLOBASKY (28,421); JONATHAN L. SCHERER (29,851); IRWIN M. AISENBERG (19,007); WILLIAM E. PLAYER (31,409); YOON S. HAM (45,307) and NATHANIEL A. HUMPHRIES (22,772)

SEND CORRESPONDENCE TO: CUSTOMER NO. 00136

Or

JACOBSON HOLMAN  
PROFESSIONAL LIMITED LIABILITY COMPANY  
400 SEVENTH STREET, N.W.  
WASHINGTON, D.C. 20004

DIRECT TELEPHONE CALLS TO:

(please use Attorney's Docket No.) (202) 638-8666

JACOBSON HOLMAN  
PROFESSIONAL LIMITED LIABILITY COMPANY

\*Inventor(s) name must include at least one unabbreviated first or middle name.

	FULL NAME * OF INVENTOR	FAMILY NAME	GIVEN NAME	MIDDLE NAME
201	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE OR COUNTRY
			ZIP CODE	
202	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE OR COUNTRY
			ZIP CODE	
203	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE OR COUNTRY
			ZIP CODE	

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under section 1001 of Title 18 of the United States Code; and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE OF INVENTOR 201*	SIGNATURE OF INVENTOR 202*	SIGNATURE OF INVENTOR 203*
DATE: November 1, 2002	DATE: November 1, 2002	DATE: November 1, 2002

Additional inventors are named on separately numbered sheets attached hereto.



SEPTEMBER 26, 2003

PTAS

Under Secretary of Commerce For Intellectual Property and  
Director of the United States Patent and Trademark Office  
Washington, DC 20231  
www.uspto.gov

JACOBSON HOLMAN PLLC  
400 SEVENTH STREET N.W.  
SUITE 600  
WASHINGTON, DC 20004



\*102431696A\*

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 12/11/2002

REEL/FRAME: 013999/0474  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

AHN, BYUNG JIN

DOC DATE: 11/01/2002

ASSIGNOR:

PARK, BYUNG SOO

DOC DATE: 11/01/2002

ASSIGNOR:

CHUNG, SUNG JAE

DOC DATE: 11/01/2002

ASSIGNEE:

HYNIX SEMICONDUCTOR INC.  
SAN 136-1, AMI-RI, BUBAL-UEP  
ICHON-SHI, KYUNGKI-DO  
REPUBLIC  
OF KOREA  
467-860

SERIAL NUMBER: 10287781  
PATENT NUMBER:

FILING DATE: 11/05/2002  
ISSUE DATE:

013999/0474 PAGE 2

THERESA FREDERICK, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

04-25-2003

Resulim  
Washington, D.C. 20231

Commissioner of Patents &amp; Trademarks

Form PTO-1595

(Rev. 03/01)

RECOI



102431696

U.S. DEPARTMENT OF COMMERCE

U.S. PATENT AND TRADEMARK OFFICE

To the honorable Commissioner of Patents and Trademarks: Please record the attached original document or copy thereof:

## 1. Name of Conveying Party(ies)

AHN, BYUNG JIN  
PARK, BYUNG SOO  
CHUNG, SUNG JAE



## 2. Name and Address of Receiving Party(ies):

Name: **Hynix Semiconductor Inc.**  
Street Address: **San 136-1, Ami-Ri, Bubal-Uep**  
Street Address:  
City: **Ichon-Shi, Kyungki-Do**  
State/Country: **Korea** Postal Code: **467-860**

Additional name(s) of conveying party(ies) attached?

☐ Yes ☒ No

Additional name(s) and addresses attached?

☐ Yes ☒ No

## 3. Nature of Conveyance:

☒ Assignment☐ Change of Name☐ Security Agreement☐ Other:☐ MergerExecution Date: **11012002**

## 4. Application Number(s) or Patent Number(s):

☐ Assignment is being filed together with new application and the first execution date of application is :☒ Application has been filed already and the application filing date is: **11052002**

A. Patent Application Number(s):

**10/287,781**

B. Issued Patent Number(s):

Additional numbers attached? ☐ Yes ☒ No

## 5. Name and address of party to whom correspondence concerning this matter should be mailed:

**CUSTOMER NUMBER 00136 -or-**

**JACOBSON HOLMAN PLLC**  
400 Seventh Street, N.W.  
Washington, D.C. 20004-2218  
Tel. 202-638-6666

Attorney Docket Number: **P68311US0**

## 6. Total number of applications and patents involved:

**1**

## 7. Total Fee (37 CFR 3.41):

**\$ 40.00**☒ Enclosed

☒ Any deficiencies in enclosed fees are authorized to be charged to **Deposit Account No. 06-1358.**

DO NOT USE THIS SPACE

## 8. Statement and Signature:

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Yoon S. Ham/45,307

April 22, 2003

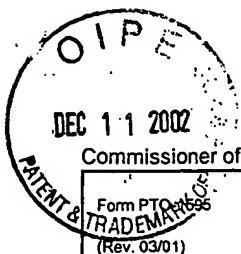
Name of Person Signing, Reg. No.

Signature

Date

Total number of pages including cover sheet, attachments, and documents:

**-2-**



12-17-2002



102313133

Commissioner of Patents &amp; Trademarks

Washington, D.C. 20231

Form PTO-155  
(Rev. 03/01)RECORDATION FORM COVER SHEET  
**PATENTS ONLY**U.S. DEPARTMENT OF COMMERCE  
U.S. PATENT AND TRADEMARK OFFICE

To the honorable Commissioner of Patents and Trademarks: Please record the attached original document or copy thereof:

## 1. Name of Conveying Party(ies):

AHN, BYUNG JIN

PARK, BYUNG SOO

CHUNG, SUNG JAE

12/11/02

Additional name(s) of conveying party(ies) attached?

☐

Yes

☒

No

## 2. Name and Address of Receiving Party(ies):

Name: Hynix Semiconductor Inc.

Street Address: San 136-1, Ami-Ri, Bubal-Uep

Street Address:

City: Ichon-Shi, Kyungki-Do

State/Country: Korea

Postal Code: 467-860

Additional name(s) and addresses attached?

☐

Yes

☒

No

## 3. Nature of Conveyance:

☒ Assignment☐ Change of Name☐ Security Agreement☐ Other:☐ Merger

Execution Date: 11012002

## 4. Application Number(s) or Patent Number(s):

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A. Patent Application Number(s):

10/287,781

B. Issued Patent Number(s):

Additional numbers attached?

☐

Yes

☒

No

## 5. Name and address of party to whom correspondence concerning this matter should be mailed:

CUSTOMER NUMBER 00136 -or-

JACOBSON HOLMAN PLLC  
400 Seventh Street, N.W.  
Washington, D.C. 20004-2218  
Tel. 202-638-6666

Attorney Docket Number: P68311US0

## 6. Total number of applications and patents involved:

1

## 7. Total Fee (37 CFR 3.41): \$ 40.00

☒ Enclosed☒ Any deficiencies in enclosed fees are authorized to be charged to Deposit Account No. 06-1358.

12/12/2002 SZEWDIE1 00000064 10287781

DO NOT USE THIS SPACE

04 FC:8028. Statement and Signature 10-00-00

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Yoon S. Ham/45,307

December 11, 2002

Name of Person Signing, Reg. No.

Signature

Date

Total number of pages including cover sheet, attachments, and documents:

-2-

# UNITED STATES OF AMERICA - ASSIGNMENT

(1-5) Insert Name(s) of Inventor(s) (1) Byung Jin AHN  
 (2) Byung Soo PARK and  
 (3) Sung Jae CHUNG  
 (4) \_\_\_\_\_  
 (5) \_\_\_\_\_

In consideration of the sum of one dollar (\$1.00), and other good and valuable considerations paid to each of the undersigned, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby assigns, transfers and sets over to

(6) Insert Name of Assignee (6) Hynix Semiconductor Inc.

(7) Insert Address of Assignee (7) of San 136-1, Ami-Ri, Bubal-Uep, Ichon-Shi, Kyungki-Do 467-860, Republic of Korea

(8) Insert Legal Entity and State or Country (e.g., a corporation or citizen of Korea) (8) A(n) Corporation of Republic of Korea  
 (hereinafter designated as the Assignee) the entire right, title and interest for the United States, its territories, dependencies and possessions, in the invention known as

(9) Insert Identification of Invention, such as Title, Case Number or Foreign Application Number (9) FLASH MEMORY CELL AND METHOD OF MANUFACTURING THE SAME, AND PROGRAMMING/ERASING/READING MEHTOD IN THE FLASH MEMORY CELL

(10) Insert Date of signing of Application, or filing date and Serial No., if known (10) Said application having been executed/for on November 5, 2002 (and assigned Serial No. 10/287,781)

1) The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing or divisional and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

2) The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this or any continuing or divisional applications thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

3) The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims provisions of the International Union for Protection of Industrial Property or similar agreements.

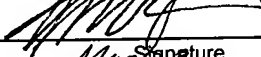
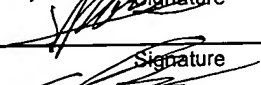
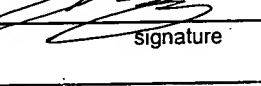
4) The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the

5) The undersigned hereby authorize(s) and request(s) the Commissioner of Patents and Trademarks to issue any and all Letters Patents United States resulting from this application or any continuing or divisional applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute any agreement in conflict herewith.

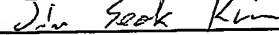
6) Assignor hereby further assigns to Assignee all claims and causes of action for infringement of the patent rights assigned herein, right to sue for, and collect damages for, any and all acts of past and future infringement.

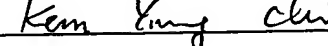
7) The undersigned hereby grant(s) the law firm of **Jacobson Holman PLLC**, 400 Seventh Street, N.W., Washington, D.C. 20004, the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date	<u>November 1, 2002</u>	Name of Inventor	<u>Byung Jin AHN</u>		(SEAL)
			typed name	Signature	
Date	<u>November 1, 2002</u>	Name of Inventor	<u>Byung Soo PARK</u>		(SEAL)
			Typed name	Signature	
Date	<u>November 1, 2002</u>	Name of Inventor	<u>Sung Jae CHUNG</u>		(SEAL)
			Typed name	signature	
Date		Name of Inventor			(SEAL)
			Typed name	signature	
Date		Name of Inventor			(SEAL)
			Typed name	signature	

This assignment should preferably be signed before a United States Consul if signed abroad, or a Notary Public if domestically signed. If not, then the execution by the inventor(s) should be witnessed by at least two witnesses who sign here:

☐ Additional inventor's names and signatures on a separate sheet. Witness Jin Seok KIM 

Witness Keun Yong CHOI 

LAW OFFICES OF  
**JACOBSON HOLMAN**  
 PROFESSIONAL LIMITED LIABILITY COMPANY  
 THE JENIFER BUILDING  
 400 SEVENTH STREET, N.W.  
 WASHINGTON, D.C. 20004



PATENT  
(ASSIGNMENT DIVISION)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Byung-Jin AHN, et al.

Serial No.: 10/287,781

Group Art Unit: 2818

Filed: November 5, 2002

Examiner: Not Yet Assigned

For: FLASH MEMORY CELL AND METHOD OF MANUFACTURING THE SAME, AND  
PROGRAMMING/ERASING/READING METHOD IN THE FLASH MEMORY CELL

\* \* \* \* \*

RESPONSE TO NOTICE OF NON-RECORDATION OF DOCUMENT

Honorable Commissioner for Patents  
Washington, D.C. 20231

April 22, 2003

Sir:

In response to the Notice of Non-Recordation of Document,  
ID No. 102313133, enclosed please find the Assignment document  
together with a signed and dated cover sheet in connection with the  
above-identified application. We also enclose the Assignment cover  
sheet dated December 11, 2002 and a copy of Notice of Non-  
Recordation of Document.

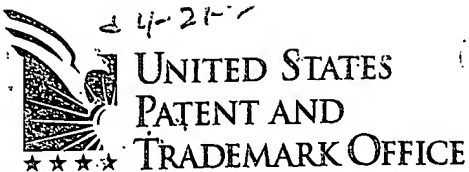
Respectfully submitted,

Yoon S. Ham  
Reg. No. 45,307

JACOBSON HOLMAN, PLLC  
400 Seventh Street, N.W.  
Washington, D.C. 20004  
Tel: (202)639-6666

Atty. Docket: P68311US0  
YSH:dj

The PTO did not receive the following  
listed item(s) 2-24-03



P 68311000

APRIL 16, 2003

PTAS

Chief Information Officer  
Washington, DC 20231  
www.uspto.gov

JACOBSON HOLMAN PLLC  
YOON S HAM  
400 7TH STREET, N.W.  
WASHINGTON, DC 20004-2218

JACOBSON HOLMAN PLLC  
Response Due On Or Before  
5 / 16 / 03  
Month Day Year



\*102313133A\*

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF NON-RECORDATION OF DOCUMENT

DOCUMENT ID NO.: 102313133

THE ENCLOSED DOCUMENT HAS BEEN EXAMINED AND FOUND NON-RECORDABLE BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. THE REASON(S) FOR NON-RECORDATION ARE STATED BELOW. DOCUMENTS BEING RESUBMITTED FOR RECORDATION MUST BE ACCOMPANIED BY A NEW COVER SHEET REFLECTING THE CORRECT INFORMATION TO BE RECORDED AND THE DOCUMENT ID NUMBER REFERENCED ABOVE.

THE ORIGINAL DATE OF FILING OF THIS ASSIGNMENT DOCUMENT WILL BE MAINTAINED IF RESUBMITTED WITH THE APPROPRIATE CORRECTION(S) WITHIN 30 DAYS FROM THE DATE OF THIS NOTICE AS OUTLINED UNDER 37 CFR 3.51. THE RESUBMITTED DOCUMENT MUST INCLUDE A STAMP WITH THE OFFICIAL DATE OF RECEIPT UNDER 37 CFR 3. APPLICANTS MAY USE THE CERTIFIED PROCEDURES UNDER 37 CFR 1.8 OR 1.10 FOR RESUBMISSION OF THE RETURNED PAPERS, IF THEY DESIRE TO HAVE THE BENEFIT OF THE DATE OF DEPOSIT IN THE UNITED STATES POSTAL SERVICE.

SEND DOCUMENTS TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231. IF YOU HAVE ANY QUESTIONS REGARDING THIS NOTICE, YOU MAY CONTACT THE INDIVIDUAL WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723.

1. THE COVER SHEET SUBMITTED FOR RECORDING IS NOT ACCEPTABLE. THE PERSON SUBMITTING THE DOCUMENT MUST SIGN AND DATE THE DOCUMENT.

TONYA LEE, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS